JAPANESE PATENT APPLICATION, FIRST PUBLICATION No. H7-258026

INT. CL.[6]: A61K 7/02 PUBLICATION DATE: October 9, 1995

TITLE	Makeup Cosmetic Composition.
APPLICATION NO.	H6-71493
FILING DATE	March 16, 1994
APPLICANT(S)	KK SHISEIDO
INVENTOR(S)	Masayuki NAGANUMA, Eiko KINOSHITA, Naoko OGAWA and Shigenori KUMAGAYA

ABSTRACT

OBJECT - To offer a makeup cosmetic composition which, when applied to the skin, has both a dry sensation and a smooth, soft sensation.

CONSTITUTION - An organopolysiloxane elastomer spheroidal powder with an average particle size of 1.0-15.0 μm and a porous powder with an average particle size of 1.0-15.0 μm are combined in the form of a powder.

CLAIMS

1. A makeup cosmetic composition characterized by containing, as a powder, an organopolysiloxane elastomer spheroidal powder with an average particle size of 1.0-15.0μm and a porous powder with an average particle size of 1.0-15.0 μm.

2. A makeup cosmetic composition as recited in claim 1, wherein the content of the organopolysiloxane elastomer spheroidal powder with an average particle size of 1.0-15.0μm is 1.0-30.0 wt% and the content of the porous powder with an average particle size of 1.0-15.0 μm is 1.0-30.0 wt%.

3. A makeup cosmetic composition as recited in either claim 1 or 2, wherein the porous powder is a porous spheroidal silica, a porous planar silica or a porous spheroidal resin powder.

4. A makeup cosmetic composition as recited in any one of claims 1-3, wherein the content of the powder is 70.0-99.0 wt% with respect to the overall weight.

DETAILED DESCRIPTION OF THE INVENTION

FIELD OF INDUSTRIAL APPLICATION

The present invention relates to a makeup cosmetic composition, and more specifically relates to a makeup cosmetic composition having both a dry sensation and a smooth, soft sensation.

CONVENTIONAL ART AND PROBLEMS TO BE SOLVED BY THE INVENTION

Makeup cosmetic compositions come in various formats combining a powder and an oil, such as solid foundations, solid eyeshadows, oil-based foundations and lip rouges. Additionally, there are emulsified foundations based on emulsions. As powders used in these makeup cosmetic compositions, inorganic pigment powders such as talc, kaolin, bentonite, silicic acid anhydride, silicon carbide, alumina, titanium oxide, carbon black, graphite, yellow iron oxide, red ocher, mica, titanated mica, zirconium oxide, sericite, calamine and ultramarine blue, and synthetic organic resins such as polyethylene resin, polypropylene resin, polyamide resin, acrylic resin, vinyl chloride resin, epoxy resin and polystyrene resin, as well as porous powders such as porous spheroidal silica, porous planar silica and porous spheroidal resin powders have been widely used.

Of these powders, the porous powders have a high oil absorption rate and are highly transparent, as well as having a dry sensation of use, and have therefore been used often, but they are not satisfactory with regard to providing a soft and smooth sensation of use.

On the other hand, organopolysiloxane elastomer spheroidal powders with an average particle size of 1.0-15.0μm have a silky sensation when rubbed, and have been recently developed as powders for cosmetic use which do not cause discomfort or irritation to the skin (JP-A H2-243612, JP-B H4-17162, JP-B H4-66446), but while their application to various products has been anticipated due to their favorable properties, their development has been left as a problem to be considered in the future. The present invention has been made in view of these conventional considerations, and has the object of offering a makeup cosmetic composition having a silky, soft and dry sensation of use.

MEANS FOR SOLVING THE PROBLEMS

The present invention is a makeup cosmetic composition characterized by containing, as a powder, an organopolysiloxane elastomer spheroidal powder with an average particle size of 1.0-15.0μm and a porous powder with an average particle size of 1.0-15.0 μm.

Next, the constitution of the present invention shall be explained. The organopolysiloxane elastomer spheroidal powder with an average particle size of 1.0-15.0 μm used in the present

invention makes the texture of the makeup cosmetic composition smooth when rubbed on the skin, and is necessary to improve the properties of use such as the lightness of spreading, dryness and softness.

The type of the hardened organopolysiloxane composition used as the raw material for the organopolysiloxane elastomer spheroidal powder is not particularly restricted, and examples include an addition-reaction-hardened organopolysiloxane composition obtained by hardening an organopolysiloxane containing a silicon atom-bound hydrogen atom with an organopolysiloxane with a silicon atom-bound vinyl group by an addition reaction in the presence of a platinum-based catalyst; a condensation-reaction-hardened organopolysiloxane composition obtained by hardening a diorganopolysiloxane with a hydroxy group at both ends of the molecular chain and a diorganopolysiloxane with a silicon atom-bound hydrogen atom by means of a dehydrogenation reaction in the presence of an organic tin compound; a condensation-reaction-hardened organopolysiloxane composition obtained by hardening a diorganopolysiloxane with a hydroxy group at both ends of the molecular chain and an hydrolyzed organosilane in the presence of an organic tin compound or titanic acid ester (here, examples of condensation reactions include dehydration, dealcoholization, deoximation, deamination, deamidation, decarboxylation and deketonization); a peroxide-hardened organopolysiloxane elastomer composition thermally hardened by an organic peroxide catalyst; and a high energy beam-hardened organopolysiloxane composition hardened by irradiation with γ-rays, UV rays or electron beams. Preferably, an addition-reaction-hardened organopolysiloxane composition is used for the quick hardening speed and the high level of uniformity of hardening. Particularly preferable among such addition-reaction-hardened organopolysiloxane compositions are (A) organopolysiloxanes having at least 2 lower alkenyl groups in each molecule, (B) organopolyxiloxanes having at least two silicon atom-bound hydrogen atoms in each molecule, and (C) those formed by a platinum-based catalyst.

Examples of other organic groups that can be bound to the silicon atoms of the organopolysiloxanes which form the main agent in the above-described hardened organopolysiloxane compositions include alkyl groups such as methyl groups, ethyl groups, propyl groups, butyl groups and octyl groups; substituted alkyl groups such as 2-phenylethyl groups, 2-phenylpropyl groups, 3,3,3-trifluoropropyl groups; aryl groups such as phenyl groups, tolyl groups and xylyl groups and substituted monovalent hydrocarbon groups carrying epoxy groups, carboxylic acid ester groups, mercapto groups or the like. The organopolysiloxane elastomer spheroidal powder can be obtained by a method of mixing an addition-reaction-hardened, condensation-reaction-hardened or peroxidation-hardened organopolysiloxane composition as described above with water in the presence of a surfactant such as a non-ionic surfactant, an anionic surfactant, a cationic surfactant or an amphoteric surfactant, blending uniformly with a homo mixer, a colloid mill, a homogenizer or a propeller-type mixer, then dispensing into hot water of at least 50 °C to harden and dry; a method of directly spraying an addition-reaction-hardened, condensation-reaction-hardened or perorxidation-hardened organopolysiloxane composition into a hot air flow to harden; a method of spraying an energy ray-hardened organopolysiloxane composition under high energy irradiation to harden into a powder; or a method of hardening an addition-reaction-hardened, condensation-reaction-hardened, peroxidation-hardened or high-energy-hardened organopolysiloxane composition by high energy irradiation, then pulverizing by means of a publicly known pulverizer such as a ball mill, atomizer, kneader or

roller mill. Due to the ability to obtain small spheroidal particles of uniform particle size, it is preferable to use a method of mixing addition-reaction-hardened, condensation-reaction-hardened or peroxidation-hardened organopolysiloxane composition with water in the presence of a surfactant such as a non-ionic surfactant, an anionic surfactant, a cationic surfactant or an amphoteric surfactant, blending uniformly with a homo mixer, a colloid mill, a homogenizer or a propeller-type mixer, then dispensing into hot water of at least 50 °C to harden and dry.

The details concerning this ingredient are described in JP-B H4-66446, JP-A H2-243612 and JP-B H4-17162, and an example of a commercially available product is Trefil E-506C (Toray-Dow Corning Silicone KK). The average particle size of this ingredient must be 1.0-15.0 μm, preferably 1.0-10.0 μm in order to confer to the makeup cosmetic composition of the present invention a silky or soft sensation, and to result in a healthy-looking, natural hue. At less than 1.0 μm, the silkiness or softness is lost, and at more than 15.0 μm, there is a sense of grittiness.

In the present invention, the content of the organopolysiloxane elastomer spheroidal powder is, 1.0-30.0 wt%, preferably 1.0-20.0 wt%, more preferably 1.0-15.0 wt%. If the content is less than 1.0 wt%, the effect of improvement of the properties of use is reduced, and if more than 30.0 wt%, the adhesion to the skin is lessened.

The porous powder used in the present invention ia a powder with an average particle size of 1.0-15.0 μm, preferably 1.0-10.0 μm. If the average particle size is less than 1.0 μm, the silkiness is lost, and if the average particle size exceeds 15.0 μm, there is a sense of grittiness.

Specific examples of porous powders include silicic acid metal salts such as calcium silicate, magnesium silicate, strontium silicate, aluminum silicate and barium silicate, carbonic acid metal salts such as calcium carbonate and cobalt carbonate, tungstic acid metal salts such as calcium tungstate, metal oxides such as cobalt oxide and α-iron oxide, and metal hydroxides such as hydrated iron oxide, as well as silica (including silica gels), hydroxyapatite and lanolin powder. Additionally, it is also possible to use spheroidal porous resin powders such as vinyl acetate, N-vinylpyrrolidone, 2,4-diamino-6-phenyl-1,3,5-triazine, methacrylic acid esters (such as methyl ester and ethyl ester), acrylic acid esters (such as methyl esters and ethyl esters), stildivinylbenzene copolymers, ethylene vinyl acetate copolymers, vinyl chloride vinyl acetate copolymers, nylon, ethylene tetrafluoride and polyethylene. Among these porous powders, those which are preferable are inorganic powders such as porous spheroidal silica and porous planar silica, and porous spheroidal resins such as porous methacrylic acid esters.

The content of the porous powder in the makeup cosmetic composition is 1.0-30.0 wt%, preferably 1.0-20.0 wt%, more preferably 1.0-15.0 wt%. If less than 1.0 wt%, there is no sensation of dryness, and if more than 30.0 wt%, the adhesion to the skin is lessened.

The makeup cosmetic composition of the present invention may contain powders aside from the above-mentioned organopolysiloxane elastomer spheroidal powder and porous powder. As such powders, there are the following inorganic pigments and organic pigments.

Inorganic pigments include talc, kaolin, mica, sericite, silica, magnesium silicate, calcium silicate, aluminum silicate, clay mineral powders such as bentonite and montmorillonite, alumina,

barium sulfate, dibasic calcium phosphate, calcium carbonate, hydrated iron oxide, hydroxyapatite, titanium oxide, microparticulate titanium oxide of particle size 0.1 μm or less, zirconium oxide, zinc oxide, hydroxyapatite, iron oxide, iron titanate, ocher, mango violet, cobalt violet, chrome hydroxide, chrome oxide, cobalt oxide, titanic acid cobalt, cobalt titanate, Prussian blue, ultramarine blue, titanium oxide-coated mica, titanium oxide-coated talc, and composite pigments of two or more of these types.

Examples of the organic pigment used in the present invention include polyester, methyl methacrylate resin, cellulose, 12 nylon, 6 nylon, copolymers of styrene and acrylic acid, polypropylene, vinyl chloride, nylon powder, polyethylene powder, benzoguanamine powder, tetrafluoroethylene powder, boron nitride, fish scale flakes, lakes of tar pigment, lakes of natural pigment, and composite pigments of the inorganic pigments and organic pigments.

The inorganic pigment and organic pigment used in the present invention may be treated by a hydrophobic treatment process. By performing a hydrophobic treatment, the cosmetic hold including water resistance, perspiration resistance and sebum resistance can be improved without color separation. Examples of hydrophobic treating agents include organic compounds such as dextrin fatty acid ester, metal soaps, silicone compounds and dibenzylidene sorbitol. As the method for hydrophobic treatment using these hydrophobic treating agents, it is sufficient to use conventionally known methods. Examples include the powders obtained by the method s described in JP-A S62-205165, JP-B S61-58499, JP-B S56-43264, JP-A S56-16404, JP-A S59-76009, JP-A S60-163973, JP-A S63-113081 and JP-A S63-113082.

The content of the powders overall in the makeup cosmetic composition of the present invention is preferably 70.0-99.0 wt% with respect to the total weight of the makeup cosmetic composition.

In order to obtain the makeup cosmetic composition of the present invention, it can be obtained by homogeneously dispersing and blending a powder containing the organopolysiloxane elastomer spheroidal powder and the porous powder with an oil.

Examples of the oil used here include hydrocarbons such as liquid paraffin, squalane, vaselin, polyisobutylene, microcrystalline wax, isopropyl myristate, myristyl octyl dodecanol, di-(2-ethylhexyl) succinate, neopentyl glycol di-iso-octanoate, glycerin monostearate, isostearic acid triglyceride, coconut oil fatty acid triglyceride, castor oil, ethanol, octyl dodecanol, hexadecyl alcohol, cetyl alcohol, oleyl alcohol, stearyl alcohol, polyethylene glycol, lauric acid, palmitic acid, oleic acid, stearic acid, isostearic acid, lanolin, bees wax and olive oil, esters, glycerides, lower alcohols, higher alcohols, polyhydric alcohols, higher fatty acids, or organopolysiloxane fluids. The content of these oils is 1.0-30.0 wt% with respect to the makeup cosmetic composition overall.

The makeup cosmetic composition of the present invention can further contain water, surfactants, thickeners, preservatives or fragrances as needed. The makeup cosmetic composition of the present invention can, for example be used as a foundation, blush, eyeshadow or white powder.

EXAMPLES

Next, examples of the present invention shall be described. In the examples, the content is given in wt%.

Example 1 Pressed Powder

(1)	Talc	bal	
(2)	Sericite	10.0	wt%
(3)	Kaolin	5.0	
(4)	Titanium dioxide	5.0	
(5)	Zinc myristate	5.0	
(6)	Colorant pigment	3.0	
(7)	Trefil E-506C	10.0	
(8)	Porous spheroidal silica (avg. part. size 3 μm)	5.0	
(9)	Squalane	3.0	
(10)	Glycerin tri-iso-octanoate	2.0	
(11)	Preservative	sa	
(12)	Fragrance	sa	

[Preparation Method] (1) and (6) are mixed in a blender. To this, (2), (3), (4), (5), (7) and (8) are added and the result well-mixed, then (9), (10) and (11) are added, the color adjusted, after which (12) was sprayed on and uniformly mixed. The result was pulverized by a pulverizer, passed through a sieve, then press-molded into a dish.

Example 2 Powdery Foundation

(1)	Talc	bal	
(2)	Sericite	15.0	wt%
(3)	Mica	20.0	
(4)	Titanium oxide	10.0	
(5)	Colorant pigment	5.0	
(6)	Trefil E-506C	5.0	
(7)	Porous spheroidal resin powder ("Microsponge", Toray-Dow, avg. part. size 7 μm)	10.0	
(8)	Squalane	6.0	
(9)	Dimethylpolysiloxane	3.0	
(10)	Octyl myristate	3.0	
(11)	Sorbitan mono-oleate	1.0	
(12)	Preservative, antioxidant	sa	
(13)	Fragrance	sa	

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a powdery foundation.

Example 3 Dual-Purpose Foundation

(1)	Silicone-treated talc	bal	
(2)	Silicone-treated sericite	10.0	wt%
(3)	Silicone-treated mica	30.0	

(4)	Silicone-treated titanium dioxide	10.0
(5)	Silicone-treated colorant pigment	5.0
(6)	Trefil E-506C	5.0
(7)	Porous spheroidal silica (avg. part. size 3 μm)	5.0
(8)	Squalane	3.0
(9)	Solid paraffin	1.0
(10)	Dimethylpolysiloxane	4.0
(11)	Octylmethoxycinnamate	1.0
(12)	Preservative, antioxidant	sa
(13)	Fragrance	sa

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a dual-purpose foundation.

Example 4 Dual-Purpose Foundation

(1)	Silicone-treated talc	bal	
(2)	Silicone-treated mica	20.0	wt%
(3)	Silicone-treated titanium dioxide	10.0	
(4)	Silicone-treated colorant pigment	5.0	
(5)	Trefil E-506C	20.0	
(6)	Porous spheroidal silica (avg. part. size 4 μm)	15.0	
(7)	Solid paraffin	1.0	
(8)	Liquid paraffin	6.0	
(9)	Dimethylpolysiloxane	4.0	
(10)	Octylmethoxycinnamate	2.0	
(11)	Preservative, antioxidant	sa	
(12)	Fragrance	sa	

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a dual-purpose foundation.

Example 5 Powdery Foundation

(1)	Talc	bal	
(2)	Sericite	10.0	wt%
(3)	Mica	5.0	
(4)	Titanium oxide	10.0	
(5)	Colorant pigment	5.0	
(6)	Trefil E-506C	35.0	
(7)	Porous spheroidal silica (avg. part. size 5 μm)	5.0	
(8)	Squalane	6.0	
(9)	Dimethylpolysiloxane	3.0	
(10)	Octyl myristate	3.0	
(11)	Sorbitan mono-oleate	1.0	
(12)	Preservative, antioxidant	sa	
(13)	Fragrance	sa	

[Preparation Method] The various ingredients were mixed together in the same manner as in

Example 1 to obtain a powdery foundation.

Example 6 Powdery Foundation

(1)	Talc	bal	
(2)	Sericite	10.0	wt%
(3)	Mica	5.0	
(4)	Titanium oxide	10.0	
(5)	Colorant pigment	5.0	
(6)	Trefil E-506C	5.0	
(7)	Porous spheroidal silica (avg. part. size 5 μm)	35.0	
(8)	Squalane	6.0	
(9)	Dimethylpolysiloxane	3.0	
(10)	Octyl myristate	3.0	
(11)	Sorbitan mono-oleate	1.0	
(12)	Preservative, antioxidant	sa	
(13)	Fragrance	sa	

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a powdery foundation.

Comparative Example 1 Powdery Foundation

(1)	Talc	bal	
(2)	Sericite	15.0	wt%
(3)	Mica	30.0	
(4)	Titanium oxide	10.0	
(5)	Colorant pigment	5.0	
(6)	Trefil E-506C	5.0	
(7)	Squalane	6.0	
(8)	Dimethylpolysiloxane	3.0	
(9)	Octyl myristate	3.0	
(10)	Sorbitan mono-oleate	1.0	
(11)	Preservative, antioxidant	sa	
(12)	Fragrance	sa	

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a powdery foundation.

Comparative Example 2 Powdery Foundation

(1)	Talc	bal	
(2)	Sericite	15.0	wt%
(3)	Mica	25.0	
(4)	Titanium oxide	10.0	
(5)	Colorant pigment	5.0	
(6)	Porous spheroidal silica (avg. part. size 5 μm)	10.0	
(7)	Squalane	6.0	
(8)	Dimethylpolysiloxane	3.0	

(9)	Octyl myristate	3.0
(10)	Sorbitan mono-oleate	1.0
(11)	Preservative, antioxidant	sa
(12)	Fragrance	sa

[Preparation Method] The various ingredients were mixed together in the same manner as in Example 1 to obtain a powdery foundation.

Next, the cosmetic compositions obtained in Examples 1-6 and Comparative Examples 1 and 2 were evaluated for (1) spreadability, (2) dryness, (3) smoothness, (4) softness and (5) fitness. The evaluation was performed in a five-stage rating as shown in the following Table 1, and their average values were taken to indicate the evaluation results as shown below.

Table 1

CATEGORY	1	2	3	4	5
Spreadability	heavy	slightly heavy	normal	slightly light	light
Dryness	none	little	normal	some	very
Smoothness	none	little	normal	some	very
Softness	none	little	normal	some	very
Fitness	none	little	normal	some	very

Indication of Evaluation Results:

◎:	4.5 and above
○:	at least 3.5, less than 4.5
△:	at least 2.5, less than 3.5
×:	at least 1.5, less than 2.5
××:	less than 1.5

The results of the above evaluation are shown in Table 2.

Table 2

SAMPLE	SPREAD	DRY	SMOOTH	SOFT	FIT
Example 1	◎	○	○	◎	○
Example 2	◎	◎	○	○	○
Example 3	○	○	○	○	◎
Example 4	◎	◎	○	○	○
Example 5	○	○	△	○	△
Example 6	○	◎	△	△	△
Comparative Example 1	△	×	△	×	○
Comparative Example 2	△	○	×	××	○

EFFECTS OF THE INVENTION

As described above, the makeup cosmetic composition of the present invention has both a dry sensation when applied to the skin, and a smooth soft sensation.